

IN THE CLAIMS:

Claims 1-55 have been amended herein. All of the pending claims 1 through 55 are presented below. This listing of claims will replace all prior versions and listings in the application. Please enter these claims as amended.

1) “PROPULSION MOTOR, PROCESSES AND ~~BEANS~~ BEAMS FROM THERMO NUCLEAR FUSION MICRO REACTIONS” being the motor CHARACTERIZED by, to hold two cylindrical rings (17) that is fixed between it by cylindrical supports of sustentation (18), and a third cylindrical ring (17A) that will sustain the reactor room (16) of the mean drive (8) that is placed between the two terminal rings, that by own turn are fixed to the cylindrical ring (17) that sustain the exhaust wall (13) of shells (13,14,15) in hemispherical shape to protect the magnets (coils) (15) being the driver system (1) placed behind magnets (15) and inside reactor room (16).

2) “PROPULSION ~~MOTOR~~”, MOTOR,” ~~according~~ according to claim 1, characterized by the driver system (1) parallel placed to the vertical axis from exhaust (13,14,15) and the driver system (1) inside reactor room (16) substituted by mirrors (21) that will direct the ~~beans~~ beams (2) to arrive at the target (3).

3) “PROPULSION ~~MOTOR~~”, MOTOR,” ~~according~~ according to claim 1, characterized by the exhaust first wall (13) constituted from carbon-carbon composite and Kevlar.

4) “PROPULSION ~~MOTOR~~”, MOTOR,” ~~according~~ according to claim 1, characterized by the exhaust first wall (13) constituted from carbon-carbon composite and graphite.

5) “PROPULSION ~~MOTOR~~”, MOTOR,” ~~according~~ according to claim 1, characterized by the magnet (15) constituted of ~~cooper~~ copper and ceramic material.

- 6) “~~PROPULSION MOTOR~~”, MOTOR,” ~~according according to~~ claim 1, characterized by the super conductor coils (15) constituted from  $Nb_3Sn$ .
- 7) “~~PROPULSION MOTOR~~”, MOTOR,” ~~according according to~~ claim 1, characterized by the super conductor coils (15) constituted from  $Nb_3Al$ .
- 8) “~~PROPULSION MOTOR~~”, MOTOR,” ~~according according to~~ claim 1, characterized by the super conductor coils (15) constituted from  $HgBa_2Ca_2Cu_3O_{8.33}$  with Ti and with variations of oxygen concentration.
- 9) “~~PROPULSION MOTOR~~”, MOTOR,” ~~according according to~~ claim 1, characterized by the exhaust (13,14,15) internal diameter able to support micro/mini explosions from 1 ton / to 800 tons of TNT equivalent.
- 10) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS”, REACTIONS,” ~~according according to~~ claim 1, characterized by hold a system of energetic ~~beans~~ beams (2) that cross a recipient (6), like a reactor, ~~were arrive an arriving at~~ target (3) of nuclear fuel ~~madding producing~~ nuclear micro reactions, arriving at the inner capsule (5) containing cylinder rod (4) having in their extremity lenses (4A) transparent to x-radiation, that will ~~made produce~~ the energetic beam (8) after arriving ~~an at~~ target (10) constituted from nuclear fuel producing fusion micro reactions (11), that generate very small charged particles that ~~need~~ require a reflector magnetic field (12) in the external vessel, having a protector shield (14) to neutrons from each nuclear explosion, where the fuel (3,10) are injected by injector system (19) and production system (20), beginning a new cycle.
- 11) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS”, REACTIONS,” ~~according according to~~ claim (10), characterized by the energetic beam (2) constituted from photons.

12) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, "~~according~~ according to claim (10), characterized by the energetic beam (2) constituted from particles of light elements of periodic table.

13) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, "~~according~~ according to claim (10), characterized by the energetic beam (2) constituted from heavy elements of periodic table.

14) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, "~~according~~ according to claim (10), characterized by the energetic beam (2) constituted from neutrons and anti particles produced by laser.

15) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, "~~according~~ according to claim (10), characterized by the reactor vessel (6) of cylindrical shape with holes (6A) to channel beam (2) arriving at the target (3) of nuclear fuel, ~~with~~ with the help of coils (7) constituted from NbTi.

16) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, "~~according~~ according to claim (10), characterized by the reactor vessel (6) of cylindrical shape with holes (6A) to channel beam (2) arriving ~~the at the~~ target (3) from nuclear fuel, ~~with~~ with the help of coils (7) constituted from ~~copper~~, copper, aluminum and silver.

17) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, "~~according~~ according to claim (10), characterized by the reactor vessel (6) of cylindrical shape with holes (6A) to channel the beam (2) arriving ~~the at the~~ target (3) from nuclear fuel, with the help of coils (7) constituted from ~~copper~~ copper, aluminum and niobium.

18) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, " ~~according~~ according to claim (10), characterized by the reactor vessel (6) of cylindrical shape with holes (6A) to channel the beam (2) arriving ~~the~~ at the target (3) from nuclear fuel ~~making~~ producing the energetic beam (8) arriving ~~the~~ at the target (10) of nuclear fuel.

19) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, " ~~according~~ according to claim (10), characterized by the reactor vessel (6) of hemispherical shape with holes (6A) to channel the beam (2) arriving ~~the~~ at the target (3) from nuclear fuel ~~making~~ producing the energetic beam (8) arriving the target (10) of nuclear fuel across hole (6B).

20) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, " ~~according~~ according to claim (10), characterized by the reactor vessel (6) has a shield of steel 10cm/20cm ~~of tiek~~ thick (6C) and lead (6D) to protect the magnets (7) and magnets (15).

21) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, " ~~according~~ according to claim (10), characterized by the reactor vessel (6) has a shield of steel 10cm/20cm ~~of tiek~~ thick (6C) and carbon-carbon composite (6D) to protect the magnets (7) and magnets (15).

22) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, " ~~according~~ according to claim (10), characterized by the cylindrical capsule (5) containing inner cylinder rod (4) of millimeter dimension constituted from aluminum and lenses (4A) of light Z elements.

23) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, "~~according~~ according to claim (10), characterized by the cylindrical capsule (5) containing inner cylinder rod (4) of millimeter dimension constituted from tungsten and lenses (4A) of light Z elements.

24) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, "~~according~~ according to claim (10), characterized by the cylindrical capsule (5) containing inner cylinder rod (4) of millimeter dimension constituted from gold and lenses (4A) of light Z elements.

25) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, "~~according~~ according to claim (10), characterized by inside spherical reactor vessel (6) cylinder rod (4) separately from target (3) of millimeter dimension constituted from aluminum and lenses (4A) of light Z elements.

26) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, "~~according~~ according to claim (10), characterized by inside spherical reactor vessel (6) cylinder rod (4) separately from target (3) of millimeter dimensions constituted from tungsten and lenses (4A) of light Z elements.

27) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, "~~according~~ according to claim (10), characterized by inside spherical reactor vessel (6) cylinder rod (4) separately from target (3) of millimeter dimension constituted from gold and lenses (4A) of light Z elements.

28) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, "~~according~~ according to claim (10), characterized by inside hemispherical reactor vessel (6) has cylinder rod (4) separately from target (3) of millimeter dimensions constituted from aluminum and lenses (4A) of light Z elements.

29) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION ~~MICRO-REACTIONS~~", REACTIONS," ~~according~~ according to claim (10), characterized by inside hemispherical reactor vessel (6) has cylinder rod (4) separately from target (3) of millimeter dimensions constituted from tungsten and lenses (4A) of light Z elements.

30) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION ~~MICRO-REACTIONS~~", REACTIONS," ~~according~~ according to claim (10), characterized by inside hemispherical reactor vessel (6) has cylinder rod (4) separately from target (3) of millimeter dimensions constituted from gold and lenses (4A) of light Z elements.

31) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION ~~MICRO-REACTIONS~~", REACTIONS," ~~according~~ according to claim (10), characterized by the target (3) has the cylindrical shape and constituted of uranium/plutonium from 0,001g to 0,1g and  $\mu$ g of DT in the center of cylinder (3) happening fission and fusion micro explosions from 0,01 to 0,1 tons of TNT equivalent contained in cylindrical reactor vessel (6) from 42cm to 1,90m in inner diameter.

32) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION ~~MICRO-REACTIONS~~", REACTIONS," ~~according~~ according to claim (10), characterized by the target (3) has the cylindrical shape and constituted of uranium/plutonium from 1g/2g and  $\mu$ g of DT in the center of cylinder (3) happening fission and fusion micro explosions from 1 ton to 2 tons of TNT contained in a cylindrical reactor vessel (6) from 3,5m to 4,5m in inner diameter.

33) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION ~~MICRO-REACTIONS~~", REACTIONS," ~~according~~ according to claim (10), characterized by the target (3) of the spherical shape constituted of uranium/plutonium from 0,001g to 0,1g and  $\mu$ g of DT in the center of sphere (3) happening fission and fusion micro explosions from 0,01 to 0,1 tons of TNT contained in spherical reactor vessel from 49cm to 1,90m in inner diameter.

34) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, " ~~according~~ according to claim (10), characterized by the target (3) of the spherical shape constituted of uranium/plutonium from 1g to 2g and  $\mu\text{g}$  of DT in the center of sphere (3) happening fission and fusion micro explosions from 1 ton to 2 tons of TNT contained in spherical reactor vessel (6) from 3,5m to 4,5m in inner diameter.

35) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, " ~~according~~ according to claim (10), characterized by the target (3) of the spherical shape constituted of uranium/plutonium from 3g to 5g and  $\mu\text{g}$  of DT in the center of sphere (3) happening fission and fusion micro explosions from 3 ton to 5 tons of TNT contained in hemispherical reactor vessel (6) from 5,0m to 7,0m in inner diameter.

36) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, " ~~according~~ according to claim (10), characterized by the target (3) of ellipsoidal shape and constituted of uranium/plutonium from 0,001g to 0,1g and  $\mu\text{g}$  of DT in the center of ellipsoid (3) contained in a cylindrical/spherical reactor vessel (6) from 49cm to 1,90m in inner diameter.

37) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS, " ~~according~~ according to claim (10), characterized by the target (3) of ellipsoidal shape and constituted of uranium from 1kg to uranium/plutonium and  $\mu\text{g}$  of DT in the center of ellipsoid (3) happening fission and fusion micro explosions contained in a spherical/hemispherical reactor vessel (6).

38) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS," ~~according~~ according to claim (10), characterized by the target (3) of cylindrical/spherical/ellipsoidal/ shape from 0,001g to 1kg of uranium/plutonium and  $\mu\text{g}$  of DT in the center of target (3) happening fission and fusion micro explosions initiated by energetic ~~beans~~ beams (2) (laser/particles).

39) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS," ~~according~~ according to claim (10), characterized by the target (3) of cylindrical/spherical/ellipsoidal shape from 0,001g to 1kg of uranium/plutonium and  $\mu\text{g}$  of DT in the center of target (3) happening fission and fusion micro explosions initiated by chemical high explosives.

40) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS," ~~according~~ according to claim (10), characterized by the target (3) of cylindrical/spherical/ellipsoidal shape from 0,001g to 1kg of uranium/plutonium and  $\mu\text{g}$  of DT in the center of target (3) happening fission and fusion micro explosions initiated by micro/mini explosives lenses initiated by lasers.

41) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS," ~~according~~ according to claim (10), characterized by the target (3) in cylindrical/spherical shape and constituted from  $\mu\text{g}$  to mg of DT happening micro/mini nuclear fusion explosions initiated by energetic ~~beans~~ beams (2) (laser/particles).

42) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS," ~~according~~ according to claim (10), characterized by the target (3) in cylindrical/spherical shape and constituted from  $\mu\text{g}$  to mg of DT happening micro/mini nuclear fusion explosions initiated by high chemical explosive, MTF, wire array z-pinch, fast z-pinch with magnetic field of, after nuclear explosions.



43) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION ~~MICRO-REACTIONS~~", REACTIONS," ~~according~~ according to claim (10), characterized by the target (3) in cylindrical/spherical geometry having the shells (3C) of high explosive micro/mini lenses initiated by lasers, the tamper shell (3D), the neutron reflector shell (3E), the fission shell (3A) and the fusion shell (3B) with variations in shells constitution, according with driver (2) applied z-pinch, fast z-pinch, array z-pinch, MTF, beam of anti particles from CPA laser impact against heavy elements.

44) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION ~~MICRO-REACTIONS~~", REACTIONS," ~~according~~ according to claim (10), characterized by the target (3) the tamper shell (3D) constituted from gold in micro fission explosions and the others shells the same.

45) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION ~~MICRO-REACTIONS~~", REACTIONS," ~~according~~ according to claim (10), characterized by in the target (3) the tamper shell (3D) constituted from tantalum in micro fission explosions and the others shells the same.

46) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION ~~MICRO-REACTIONS~~", REACTIONS," ~~according~~ according to claim (10), characterized by the targets (3,10) constituted from shells (3/10A, 3/10B, 3/10C, 3/10D, 3/10E) to fast ignition geometry with gold cone (3/10F) linked to the shell (3B) arrived by the ignitor ~~beans~~ beams (2A) in reactor vessel (6) and energetic ~~beans~~ beams (8) in the exhaust vessel (13,14,15).

47) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION ~~MICRO-REACTIONS~~", REACTIONS," ~~according~~ according to claim (10), characterized by the beam (8) constituted from x-ray laser pumped by micro/mini fission/fusion explosions.

48) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS,"-~~according~~ according to claim (10), characterized by the beam (8) constituted from  $\gamma$ -ray laser pumped by micro/mini fission/fusion explosions.

49) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS,"-~~according~~ according to claim (10), characterized by the target (10) with cylindrical/spherical geometry constituted of  $\mu\text{g}$  of plastic foam (10D),  $\mu\text{g}/\text{mg}$  of gold (10C),  $\mu\text{g}/\text{mg}$  of DT (10A) and the mean fuel (10B) with  $\mu\text{g}/\text{mg}$  of  $\text{DHe3/TxDHe3}$ .

50) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS,"-~~according~~ according to claim (10), characterized by the protector shield (14) constituted from steel and carbon-carbon composite.

51) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS,"-~~according~~ according to claim (10), characterized by the protector shield (14) constituted from Kevlar and graphite.

52) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS,"-~~according~~ according to claim (10), characterized by the injector system (19) in the reactor vessel (6) by electromagnetic means.

53) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS,"-~~according~~ according to claim (10), characterized by the injector system (19) in the reactor vessel (6) by electrodynamics means.

54) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS," ~~according~~ according to claim (10), characterized by the injector system (19) in the exhaust (13,14,15) constituted by gas trigger (19A), a control valve (19B), an criostate (19C), a system of gas remove (19D), suction pumps (19E) and light detectors (19F1 e 19F2) and cameras (19G).

55) PROCESSES AND ~~BEANS~~ BEAMS FROM THERMONUCLEAR FUSION MICRO-REACTIONS", REACTIONS," ~~according~~ according to claim (10), characterized by the production system (20) from fuel (3,10) by cryogenic and polymerization.